

**TENDER DOCUMENT**

**FOR**

**MANUFACTURING, SUPPLYING, INSTALLATION &**

**COMMISSIONING**

**OF**

**600 Nos. OF SOLAR STREET LIGHTING SYSTEMS IN NIT**

**JOTE, PAPUMPARE DISTRICT OF ARUNACHAL**

**PRADESH.**



**Arunachal Pradesh Energy Development Agency**  
**Urja Bhawan, T.T. Marg, Itanagar-791111**  
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## **1. NOTICE INVITING TENDER**

Sealed turn-key tenders are invited by the Arunachal Pradesh Energy Development Agency, Itanagar, from reputed MNRE accredited Channel Partners and Manufacturers of SPV systems for “Manufacturing, supplying, installation and commissioning of 600 Nos. of solar street lighting systems at NIT Campus, Jote in Papumpare District of Arunachal Pradesh”, conforming to MNRE approved standards & specifications supported by test certificates issued from MNRE approved test centres.

Tender documents can be obtained from Urja Bhawan, Itanagar on any working day between 10.00 AM to 3.00 PM on payment of Rs.3,000.00 (Rupees three thousand) only by cash or through Demand Draft favouring the Director, APEDA payable at SBI, Itanagar starting from 27<sup>th</sup> January 2014 to 11<sup>th</sup> February 2014. The last date for submission of Tender Documents shall be 12th<sup>th</sup> February 2014 till 12.00 Noon and the same shall be opened on 13<sup>th</sup> February 2014 at 3.30 P.M.

Tender documents will be issued only to those who are accredited in MNRE, GOI. as Channel Partners or as manufacturers of one of the major components of PV Systems. Tender documents can be seen and downloaded from [www.apeda.org.in](http://www.apeda.org.in) from 27<sup>th</sup> January 2014 till 11<sup>th</sup> February 2014. The undersigned reserves the right to reject any or all the tenders without assigning any reason.

Sd/-

Er. Marki Loya  
Director, APEDA,  
Urja Bhawan, TT Marg,  
Itanagar -791 111 (AP)

Copy to:

1. The Director, IPR, Govt. of AP, Naharlagun with the request to publish above NIT in one of the National Dailies and one of the Local Dailies for wide publicity.
2. The Chairman, APEDA, Itanagar for information.
3. The Secretary (Power &NRE), Govt. of AP, Itanagar for information.
4. The Deputy Directors, APEDA, Aalo/ Tezu/ Yachuli/ Bomdila for information and publicity.
5. Notice Board.
6. Office Copy.

Sd/-

Er. Marki Loya  
Director, APEDA  
Itanagar.

## **2. Covering Letter :**

**FROM:-**

(Full name and address of the Tenderer/ Bidder)

M/S.....  
.....  
.....  
.....

To,

The Director  
Arunachal Pradesh Energy Development Agency  
Urja Bhawan, T.T. Marg  
Itanagar-791111

**Subject: - Offer in response to NIT No: APEDA/W-435/NITSSL/2013-14 Dated Itanagar, the .....<sup>th</sup> January 2014 for, Manufacturing ,Supplying, Installation, and Commissioning of 600 Nos. of solar streetlighting systems at National Institute of Technology (NIT) ,Jote in Papumpare district of Arunachal Pradesh.**

Sir,

We hereby submit our offer in full compliance with the terms & conditions of the above mentioned tender. A blank copy of the tender, duly signed on each page is also submitted as a proof of our acceptance of all specifications as well as terms/ Conditions specified in the tender document.

We confirm that, we have the capability to manufacture, supply and install the solar street lighting systems as mentioned in the Tender Document within two months of award of work.

The tender is submitted in two separate and sealed envelopes marked Part-I & Part-II .

**(Signature of Bidder)  
With Seal**

### 3. Check list of Annexures

<b>SL. No</b>	<b>Annexure No.</b>	<b>Particulars</b>	<b>Yes/No (Flag No*)</b>
1.	Annexure-I	Details of tender document fee (bank draft/ receipt no. and date)	
2.	Annexure-I A	Details of Earnest money (bank draft no. and date)	
3.	Annexure-II	Experience - Relevant project(s) Completed (number of pages/copies attached)	
4.	Annexure-III	The Tenderer shall submit latest test certificates for all the Electronic items/ Components from NABL/ BIS accredited Testing – Calibration Laboratories/MNRE approved test centres.	
5.	Annexure-IV	Test Certificate for solar module as per IEC Standards from any one of the NABL/BIS accredited Testing/Calibration Laboratories.	
6.	Annexure-V	The Tenderer should have valid CST/ VAT registration certificate. A copy of which should be enclosed.	
7.	Annexure-VI	The Tenderer should have adequate financial stability and status to meet the financial obligations pursuant to the scope of works. Audit report/ audited balance sheet by CA of year 2010-11, 2011-12 and 2012-13should be enclosed. The tenderer should also submit the above information about the turnover in a summarized sheet verified by a registered C.A.	
8.	Annexure-VII	Authorization letter of the Tenderer, for the person representing his firm, that he is authorized to discuss and sign documents with specific mention of this tender.	
9.	Annexure-VIII	The tenderer shall submit test certificates for the Batteries from NABL/BIS accredited Testing – Calibration Laboratories/MNRE approved test centres and battery life cycle curve for the particular make of the battery.	

\* Please flag the annexure and write number in the box

#### **4. PARTICULARS OF TENDER**

1. NIT No. : APEDA/W-435/NITSSL/2013-14/ ..... Dated Itanagar, the ...<sup>th</sup> January 2014 .
2. Particulars of the work : Manufacturing, Supplying, Installation, and Commissioning of 600 Nos. of solar street lighting systems at National Institute of Technology (NIT), Jote in Papumpare District of Arunachal Pradesh .
3. Period for work completion : **02 months** from the date of signing of the Agreement.
4. Cost of tender document : **Rs 3000/-** in the form of Bank Draft issued by a Nationalized bank or State Bank of India or its subsidiary banks in favour of Director APEDA payable at Itanagar or by Cash. (**As annex-I**)
5. Amount of Earnest money : **Rs. 2,50,000.00** (Rupees Two Lakhs Fifty Thousand) only to be deposited in the form of Bank Draft issued by a Nationalized bank or its subsidiary banks in favour of Director APEDA, payable at Itanagar and it shall be attached with the tender document  
**(As annex-I A).**
6. Period of validity of tender : 6 (six) months from the date of opening of financial bid of the Tender.
7. Tenders are to be submitted in two parts - **Part-I** and **Part -II** in the form of **(a) Technical & Commercial Bid as Part-I and (b) Price Bid as Part-II**. In the Technical & Commercial Bid, all the qualifying documents like certificates, experience, credentials of the firm, design aspects, standards & specifications, etc. including earnest money should be submitted. In the Price Bid only the bidding/ bid price/amount should be submitted. Part-I and Part-II should be sealed in two separate envelops duly marked as **Part-I (Technical and Commercial Bid)** and **Part-II (Price Bid)** and then put in a single sealed bigger envelop and submitted on or before the last date of submission of tenders.
8. Last date and Time of submission of tender : ..... **February 2014 at till 3.00 PM**
9. Date and Time of opening of Technical Bid : **February 2014 at 3:30 PM**
10. Date and Time of opening of financial Bid : Within one week of opening of technical bid.
11. Place of opening of tender : Urja Bhawan, T.T. Marg, Itanagar -791111.
12. Name of firm / company to whom tender document is issued.
13. Seal & Signature of the Tender Document issuing authority :

## **5. GENERAL PARTICULARS OF TENDERER**

1. Name of firm : .....
2. Postal Address : .....
3. Telegraphic address : .....
4. Telephone & Fax No : .....
5. E-mail : .....
6. Web site : .....
7. Name and designation of the representative :  
of the tenderer to whom all references shall  
be made and his contact mobile number
8. Amount of the earnest money deposited : .....
9. Details of Earnest money, Bank and Draft No.  
and date etc. (**as Annexure-IA**) : .....
10. Financial capability of the tenderer  
for carrying out the work . (proof to be enclosed) : .....
11. Technical Soundness (proof to be enclosed)
12. Name and address of the Indian/foreign  
Collaboration if any. : .....
13. Has the tenderer have to pay arrears of income  
tax/ if yes up to what amount and period. : .....
14. Has the tenderer have been ever debarred by any  
Govt. deptt/Undertaking for undertaking any work : .....
15. Monthly supply capacity of the items : .....
16. Details of offer (please mention number of pages  
and number of Drawings, copies attached). : .....
17. Reference of any other information attached  
by the tender (please Mention no. of pages  
& no. of drawings, copies attached) : .....
18. Has the tenderer any relative working in APEDA,  
if yes state the Name and designation : .....

(Signature of Bidder)  
with SEAL

## **6. EXPERIENCE**

### **Solar Street Lighting Systems / Projects completed**

Please fill in information about similar projects undertaken (**Annexure-II**)

1. Name of organization, which awarded the works:  
**(Please enclose list of organization) annexure II**
2. Name of the location of the work :  
**(Please enclose copy/ details of work orders) annexure II**
3. Capacity/Nos. of the SPV Streetlights Installed :
4. Total contract amount :
5. Year of award and year of Completion :
6. Details of involvement in work as an individual or as a company
7. Was the work satisfactorily completed within stipulated period? Certificates from clients to be attached.

(Please attach copies of the related documents.)

**(Signature of Bidder)**  
with SEAL

## **7. DECLARATION BY THE TENDERER**

I/We \_\_\_\_\_ (hereinafter referred to as the Tenderer) being desirous of tendering for the work under the above mentioned tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the tender document, DO HEREBY DECLARE THAT-

1. The Tenderer is fully aware of all the requirements of the tender document and agrees with all provisions of the tender document.
2. The Tenderer is capable (technically & financially) of executing and completing the work as required in the tender.
3. The Tenderer accepts all risks and responsibilities directly or indirectly connected with the tender process and performance of the systems and works they would be supplying/executing.
4. The Tenderer has no collusion with other tenderer, any employee of APEDA or with any other person or firm in the preparation of the bid.
5. The Tenderer has not been influenced by any statement or promises of APEDA or any of its employees, but only by the tender document.
6. The Tenderer is financially solvent and sound to execute the work.
7. The Tenderer is sufficiently experienced and competent to perform the contract to the satisfaction of APEDA.
8. The information and the statements submitted with the tender are true.
9. The Tenderer is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
10. The Tenderer has not been debarred from similar type of work by APEDA and or by any Government undertaking/ Department.
11. This offer shall remain valid for acceptance for 6 (Six) months from the date of opening of the tender.
12. The Tenderer has attached herewith the earnest money as required in the tender document.
13. The Tenderer accepts that the earnest money be absolutely forfeited by APEDA if the tenderer fails to undertake the work or sign the contract within the stipulated period.
14. The Tenderer gives the assurance to execute the tendered work as per specifications terms and conditions.

**(Signature of Bidder)**  
with SEAL

## **8. ELIGIBILITY CONDITIONS**

1. The Bidder/ tenderer should be - A Registered Manufacturing Company/Firm/ Corporation in India of : SPV Cells / Modules Or Battery Or PV System Electronics (Conforming to relevant National / International Standards). Technical performance of module/ systems should be duly supported by valid test certificates issued by the SEC or by other authorized / accredited national or international test centers as per the **GUIDELINES FOR OFF-GRID AND DECENTRALISED SOLAR APPLICATION** in the Jawaharlal Nehru National Solar Mission. Or, the Bidder must be a PV System Integrator empanelled/ accredited as Channel Partner by the MNRE, GoI for off-grid and decentralised solar application under JNNSM valid upto 2015.
2. The Bidder must also be an ISO 9001 certified Company.
3. The Bidder must have work experience in the field of SPV applications worth of at least 5 crores in the last three years and proof of such experience should be submitted.
5. The bidder should have Test Certificates for the complete system of tendered solar street lighting systems from MNRE authorised test centres and the test certificate should have been issued on or after 1<sup>st</sup> April 2011 and should conform to **IEC Standards** (Details to be enclosed **as Annexure-IV**).
6. The bidder should have valid CST / VAT registration certificate. A copy of which should be enclosed (Details to be enclosed **as Annexure-V**).
7. The bidder should have adequate financial capability to meet the financial obligations pursuant to the scope of works. The Bidder should have an average annual turnover of at least **Rs. 5.00 (Five) crores** in the last 3 years and **Audit report/ audited balance sheets** by CA for the years 2012-13, 2011-12, 2010-11 should be submitted as a proof (Details to be enclosed **as Annexure-VI**).
8. Preference may be given to those who have worked/ supplied with APEDA in the

past. Work order / Award Letter in this regard may be submitted as a proof.

## **9. CONTENT OF TENDER DOCUMENT**

The Tender procedure and contract terms are prescribed in the Tender Document. The Tenderer is expected to examine all instructions, forms, terms and specifications as mentioned in the Tender document. Failure to furnish all information required in the Tender document or submission of a bid not substantially responsive to the Bid Document in every respect will be at the Tenderer's risk and is likely to result in out-right rejection of the Tender.

## **10 INFORMATION REQUIRED WITH THE PROPOSAL**

1. The tenderer may also provide information with the Tender in the form of separate sheets, drawings, catalogues etc.
2. Any Tender not containing sufficient descriptive material to describe the equipment proposed may be treated as incomplete and hence may be rejected. Such descriptive materials and drawings submitted by the Tenderer shall be retained by the APEDA. Any departure from these drawing and descriptive material submitted shall not be permitted during the execution of contract without specific written permission of the APEDA.

## **11. LOCAL CONDITIONS**

It shall be imperative on each bidder to be fully informed of all local conditions and factors, which may have any effect on the execution of the works covered under these documents and specifications. APEDA shall not entertain any request for clarifications from the Tenderer, regarding such local conditions.

## **12 CLARIFICATION OF TENDER DOCUMENTS**

1. A prospective Tenderer requiring any clarification of the Tender Documents may contact APEDA in writing or by Fax at the APEDA's mailing address.
2. Verbal clarifications and information's given by the APEDA or its employees or its representatives shall not be in any way entertained.

## **13 AMENDMENT OF TENDER DOCUMENTS**

1. At any time prior to the submission of the tender or prior to the opening of the financial bid, the APEDA may, for any reason, whether at its own initiative or in response to a clarification requested by the Tenderer, modify the Tender documents by amendments.
2. The amendment will be notified in writing or through website or by Fax to all prospective Tenderers, who have received the Tender documents and will be binding on them. APEDA will bear no responsibility or liability arising out of non-receipt of the same in time or otherwise.

#### **14. LANGUAGE OF BID AND MEASUREMENT**

The Tender prepared by the Tenderer and all correspondence and documents relating to the bid exchanged by the Tenderer and APEDA shall be written in the English provided that any printed literature furnished by the Tenderer may be written in another language so long as accompanied by an English translation of its pertinent passages in which case, for purpose of interpretation units of measurement shall be MKS system.

#### **15. DOCUMENT COMPRISING THE BID**

The Tender prepared by the Tenderer shall comprise the following components.

##### **Technical & Commercial Bid (Part – I)**

- (a) Covering letter as provided in tender document.
- (b) Tender form
- (c) Documentary evidence establishing that the bidder is eligible to Tender and is qualified to perform the contract if its tender is accepted.
- (d) Earnest money furnished in accordance with the tender requirements.
- (e) Authorization letter of the Tenderer, for the person representing his firm, that he is authorized to discuss and sign with specific mention of this tender. **(as Annexure-VIII).**

##### **PRICE BID (Part – II)**

The Tenderer shall indicate prices on the appropriate financial bid schedule attached to these documents.

#### **16 DUTIES AND TAXES**

The price quoted should include all taxes and duties, custom duty, excise duty, service tax, sales tax, C.S.T., local taxes, Trade Tax/VAT/Entry Tax of Arunachal Pradesh, Income Tax, Surcharge on income tax etc. The tenderer

shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & service tax norms will be payable by the tenderer. If any new tax/duty is levied during the contract period the same will be borne by the firm exclusively. TDS will be deducted from the payment of the tenderer as per the prevalent laws and rules of Government of India and Government of A.P. in this regard. The amount of taxes subject to TDS shall be shown clearly by the firm in the bills.

## **17. BID CURRENCIES**

Prices shall be quoted in Indian Rupees (INR) only.

## **18. BID SECURITY (Earnest Money)**

The bidder shall furnish, as part of its bid, bid security (Earnest Money) as mentioned in the tender document in the form of a bank draft issued by a nationalized bank, or State Bank of India and its subsidiary banks favouring the Director, APEDA payable at Itanagar.

Any bid not secured with the earnest money will be rejected by the APEDA as non- responsive.

No Interest shall be payable on the amount of earnest money and the same will be released, after the tenders have been decided, to those tenderers who fail to get the contract. The earnest money of successful tenders shall be converted into agreement security and shall be released after 06 (six) months of successful operation of the Solar street lights.

## **19. FORFITURE OF EARNEST MONEY:**

The Bid security (earnest money) may be forfeited:

- a) If a Tenderer withdraws its tender during the period of tender validity specified by the Tenderer on the tender form.
- b) If the successful tenderer fails to sign the contract within stipulated period.
- c) If the tenderer fails to carry out the work as per the agreement after award.

## **20. PERIOD OF VALIDITY OF TENDER**

- 1. Validity of the offer should be six **months** from the date of opening of the

financial bid of the tender. Without this validity the tenders will be rejected.

2. In exceptional circumstances; the APEDA will solicit the Tenderer's consent to an extension of the period of validity. The request and the response there of shall be made in writing (or by cable).

## **21. FORMAT AND SIGNING OF TENDER**

1. The bid must contain the name, residence and places of business of the persons making the tender and must be signed and sealed by the Tenderer with his usual signature. The name and designations of all persons signing should be typed or printed below the signature.
2. Tender by corporation/ company must be signed with the legal name of the corporation/ company be the 'President', Managing Director or by the 'Secretary', 'Agent' or other designation. Without disclosing his Principal the tender may be rejected.
3. The original copy of the Tender shall be typed or written in indelible ink and shall be signed by the Tenderer or a person duly authorized to bid and bidder to the contract. The letter of authorization shall be submitted along with power-of-attorney. All the pages of the bid shall be initialled by the person or persons signing the tender.
4. The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Tenderer in which case such corrections shall be initialled by the person or persons signing the tender.

## **22. SUBMISSION OF TENDER-(SEALING AND MARKING OF TENDER)**

1. The tender must be complete in all technical, commercial and financial respects and should contain requisite certificate, drawings, informative literature etc. as required in the specification. Any queries made should be promptly replied within following time schedule.

Fax query required to be replied by fax : 2 days

Query by letter to replied by letter : 7 days

2. All the pages of the tender document, attachments, drawings, etc. should be duly sealed and signed by the authorised signatory. Failure to do so might lead to rejection of the offer.

**3. First sealed envelope (part-I) should contain earnest money, technical specification, Commercial terms & conditions, brochures, literatures, etc. It should be super-scribed with “Technical & Commercial Bid for Manufacturing, Supplying, installation, and Commissioning of 600 Nos. of solar streetlight systems at National Institute of Technology (NIT) Jote in Papumpare District of Arunachal Pradesh .**

All parts of tender documents and annexure (except financial bid) duly signed should be submitted in the first envelope. Requisite earnest money in the form of Bank Draft should also be attached.

**4. Second sealed envelope (part-II) should contain financial bid only. The tenderer should submit price bid duly signed on the original Financial Bid attached with this tender document. It should be superscribed with “Financial Bid for “Manufacturing, Supplying, installation, and Commissioning of 600 Nos. of solar streetlight systems at National Institute of Technology (NIT) Jote in Papumpare District of Arunachal Pradesh” .**

**5. Both the Part –I and Part – II sealed envelopes should be put inside a bigger envelope and sealed and superscribed as “Bid for Manufacturing, Supplying, installation, and Commissioning of 600 Nos. of solar streetlight systems at National Institute of Technology (NIT) Jote in Papumpare District of Arunachal Pradesh .**

The envelope shall be addressed to the Director, APEDA, Urja Bhawan, T.T. Marg, Itanagar-791111 (Arunachal Pradesh.)

### **23. EXPENSES OF AGREEMENT**

A formal agreement shall be entered between APEDA and the tenderer for the proper fulfillment of the contract. The expenses of completing and stamping of the agreement shall be paid by the tenderer.

### **24. DEADLINE FOR SUBMISSION OF BIDS**

Bids must be submitted at the date and time specified in the tender documents.

## **25. LATE BIDS**

No late bid shall be entertained. No claim regarding late submission shall be entertained in this regard.

## **26. TENDER OPENING AND EVALUATION**

### **1. OPENING OF TENDER**

The procedure of opening of the tender shall be as under:

2. First envelop subscribed as Part - I shall be opened at the time and date mentioned in the tender notice in the presence of tenderers, who choose to be present.
3. Second envelope subscribed as Part - II shall be opened (after obtaining commercial clarifications and establishing technical suitability of the offer) as per schedule provided in the tender document. Second envelope of only those Tenderers shall be opened whose documents, etc. given in first envelope (Part-I) shall be found commercially clear and technically suitable.
4. In case it is not possible to open second envelop (Part-II) on the day fixed due to unavoidable circumstances then the opening of the second envelop shall be postponed, and intimation of this effect shall be sent to Tenderers by telegram/ fax. It will be in the interest of the Tenderer to send their authorized representatives well conversant with the tender and competent enough to take decision on technical and financial matters at the time of opening of second envelope.

## **27. CLARIFICATION OF TENDER**

To assist in the examination, evaluation and comparison of bids the APEDA may at its discretion to ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing.

## **28. AWARD OF CONTRACT**

1. apeda reserves the right of negotiation with eligible tenderers before the finalization of the tender
2. The APEDA reserves the right at the time of award of contract to increase or decrease the quantity of goods and change locations of supply without any change in price or other terms and conditions.
3. APEDA RESERVES THE RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS.
4. APEDA reserves the right to reject any or all the tenders or accept any tender in total or in parts or work may be divided among various tenderers without assigning any reason thereof.

## **29. NOTIFICATION OF AWARD**

Prior to the expiration of the period of tender validity the APEDA will notify the successful tenderer(s) by registered letter or e-mail or Fax, to be confirmed in writing by letter, that the bid has been accepted.

## **30. EXECUTION PERIOD**

The work shall have to be completed within 2 **months** from the date of award of work

## **31. CONTRACT AGREEMENT**

Before execution of the work, a contract agreement for execution of the work shall be signed with the successful tenderer. The successful tenderer has to sign the agreement within the 15 days of communication of acceptance of the offer by APEDA; otherwise earnest money of the tenderer deposited with the tender shall be forfeited and the work shall be awarded to any other eligible party.

## **32. FORMAT OF HANDING OVER CERTIFICATE FOR INSTALLATION OF SOLAR STREET LIGHTING SYSTEM**

**(In quadruplicate)**

Certified that **600 Nos.of SOLAR STREET LIGHT SYSTEEMS of capacity 74 Wp each** have been installed, tested and commissioned successfully at (location details – full address of site) \_\_\_\_\_  
and has been handed over on date \_\_\_\_\_ with the following assets

S.No	Item	Check list (Description)
1	Solar PV Modules Make: Module nos: Wattage of each module: Year of manufacture:	
2	Battery Make and Model No.: Nos.of Batteries : Ampere-hour rating (C-10): Depth of Discharge proposed: Autonomy Days:	
3	Charge Controller Make and rating:	
4	Mounting Structure, Accessories, Cables,Nos.:	
5.	Luminaire Name: Wattage; Nos.	
<b>(A) Installation Report :</b>		
1.	Verified that civil work carried out as per recommendation.	Yes/No
2.	Verified that all solar modules are installed in shadow free area and correctly oriented from horizontal.	Yes/No
3.	Verified that all the solar street lighting systems are performing well from dusk to dawn automatically.	Yes/No
4.	Verified that all CFLs are functioning well.	Yes/No
5.	Verified that battery is performing well and have not received damage during transportation.	Yes/No

6. Verified that spare parts have been provided. Yes/No
7. Verified that training for operation & minimum maintenance of the systems has been provided to end user. Yes/No
8. Verified that user manual /Guidelines for repair and maintenance has been provided to end user. Yes/No

**(B) Commissioning Report :**

S.No.	Date	Time	Module Voltage/watts	Battery Voltage	Solar Charge Controller Status

**(C)** M/s ..... has installed, commissioned and handed over the solar street lighting systems . The usage and the minimum maintenance for the systems have been explained to end user/ NIT authorities and APEDA Officials at site. During commissioning, the above systems were tested and found to be working satisfactorily for 50 hours.

**(D) Users Remarks, if any :**

.....  
.....  
.....  
.....

**Handed Over by:**  
**User :**

**For M/s.** \_\_\_\_\_

**(Authorized Signatory)**  
**Name:**  
**Seal :**

**Taken Over by**

**Signature**  
**Full Name & Designation**

**Copies:**

1. Copy to User
2. Copy to APEDA
3. Copy to Contractor

### 33. FORMAT FOR COMPLETION REPORT OF THE SOLAR STREET LIGHTING SYSTEMS

<b>Sl. No.</b>	<b>Component</b>	<b>Observation</b>		
1	Sanction No. & Date			
2	Name of the implementing Agency			
	Site/Location			
3	<b>Type of System</b>	<b>Model</b>	<b>Tick (J)</b>	<b>Wp</b>
	Solar Home Light			
	Solar Street Light			
	Solar Lantern			
4	Specification of the Model			
	Brand Name			
	Module Wattage (Wp)			
	CFL/LED			
	Lumainare	<b>Name</b>	<b>Wattage</b>	<b>Nos.</b>
4.1	Enclose test certificate of complete system as per MNRE requirement (manufacture wise)			
5	Charge Controller			
	Make & Rating			
6	<b>Batteries</b>			
	Make of batteries			
	Type: Tubular Lead Acid/ VRLA/ GEL			
	Rating			
7	Depth of Discharge Proposed			
	Autonomy (Days)			
8	Date of Commissioning			
9	Copy of work order			
10	Trained person details with mobile no.			

#### **Declaration**

It is to certify that all the components/ subsystems and materials used are as per MNRE requirement.

(Implementing Agency)  
With seal

Date:

Place:

## **34. GENERAL CONDITIONS OF CONTRACT**

In the deed of contract unless the context otherwise requires:-

1. APEDA shall mean Arunachal Pradesh Energy Development Agency, represented by its Director or his representative with Head office at Urja Bhawan, T.T. Marg, Itanagar -79111 and shall also include its successors in interest and assignees. The contractor shall mean the person whose tender has been accepted by APEDA and shall include his legal representatives, successors in interest and assignees.
2. The work shall be completed within **02 months** from the date of signing of Agreement. However APEDA may in case of urgency ask the firm to complete the work earlier, with the mutual consent of the contractor. In case the contractor fails to execute the said work within stipulated time, APEDA will be at liberty to get the work executed from the open market without calling any tender and without any notice to the contractor, at the risk and cost of the contractor. Any additional cost incurred by APEDA shall be recovered from the contractor. If the cost of executing the work as aforesaid shall exceed the balance due to the contractor, and the contractor fails to make good the additional cost, APEDA may recover it from the contractors' pending claims against any work in APEDA or in any lawful manner.
3. That on the request of the contractor and also in the interest of the organization the APEDA is authorized to extend the validity of the agreement, subject to that the request of the contractor is received before the expiry of the agreement period, or any extended period granted to the contractor.
4. The contractor will not be allowed to operate in the state through authorized dealers for execution of the orders. It will be the sole responsibility of the contractor to execute orders placed as per time schedule and to ensure quality parameters, specifications and other requirements provided in the tender document and as per agreement.
5. In the interest of the work and the programme, agreement executed between the tenderer and the APEDA may be extended to a mutually agreed period, if the need so arises.
6. It shall be sole responsibility of the contractor to get verified the quality & quantity of the supplied material at the site of delivery.

**35. LIQUIDATED DAMAGES**

If the contractor fails to perform the services within the time periods specified in the contract, the APEDA shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damage, a sum equivalent to 1% of the price of the unperformed services for each week of delay until actual performance up to a maximum deduction of 10% of the delayed services. If the contractor fails to supply the systems within the 10 weeks delay period, the work order will be treated as cancelled and the entire security or earnest money deposit, will be forfeited and APEDA may consider blacklisting of the contractor.

The contractor shall have to comply with all the rules, regulations, laws and by-laws for the time being in force and the instructions if any, of the organization, in whose premises the work has to be done. APEDA shall have no liability in this regard.

**36. FORCE MAJEURE**

Notwithstanding the provisions of clauses contained in this deed; the contractor shall not be liable for forfeiture of its performance security, liquidated damages, termination for default, if he is unable to fulfill his obligation under this deed due to event of force majeure circumstances.

For purpose of this clause, "Force majeure" means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of Govt. either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a force majeure situation arises, the contractor shall promptly notify the APEDA in writing within a week from the date situation so arises.

**37. DISPUTE AND COURT JURISDICTION**

The High court of Guwahati, Itanagar Bench shall alone have jurisdictions over any dispute between APEDA and the Contractor.

The contract shall not without the consent in writing of APEDA, transfer, assign or sublet the work under this contract or any substantial part thereof to any other party.

APEDA shall have at all reasonable time access to the works being carried out by the contractor under this contract. All the work shall be carried out by the contractor to the satisfaction of APEDA.

If any question, dispute or difference what so ever shall arise between APEDA and the contractor, in the connection with this agreement except as to matters, the decisions for which have been specifically provided, either party may forthwith give to the other notice in writing of existence of such question, dispute or difference and the same shall be referred to the sole arbitration of the Secretary, Power & NCER, Govt. of A.P or a person nominated by him. This reference shall be governed by the Indian Arbitration Act, and the rules made there under. The award in such arbitration shall be final and binding on both the parties. Work under the agreement shall be continuing during the arbitration proceedings unless the APEDA or the arbitrator directs otherwise.

APEDA may at any time by notice in writing to the contractor either stop the work all together or reduce or cut it down. If the work is stopped all together, the contractor will only be paid for work done and expenses distinctly incurred by him as on preparation or the execution of the work up to the date on which such notice is received by him. Such expenses shall be assessed by APEDA, whose decision shall be final and binding on the contractor. If the work is cut down the contractor will not be paid any compensation what so ever for the loss or profit which he might have made if he had been allowed to complete all the work included in the contract.

### **38. INSPECTION AND TESTS**

The following inspection procedures and tests are required by the APEDA in the presence of APEDA/NIT's representative if so desired by APEDA/NIT.

The APEDA/NIT or its representative shall have the right to inspect and / or to test the goods to confirm their conformity to the contract. The special conditions of contract and / or the Technical specifications shall specify what inspections and test the APEDA/ NIT requires.

The APEDA/ NIT , his duly authorized representative shall have at all reasonable times access to the tenderer premises or works and shall have the power at all reasonable time's to inspect and examine the

materials and workmanship of the works during its manufacture.

The tenderer shall give the APEDA 15 day's written notice of any material being ready for testing. It shall be mandatory that such notice should reach APEDA within 20 days of placement of supply order. Such tests shall be on the tenderer accounts/ expenses except for the expenses of the inspector. If the tenderer wants to inspect the material other than its works/ factory (specified in the tender) than the whole expenses of the inspector shall be borne by the contractor. APEDA reserves the full rights, to waive off inspection of materials.

The tenderer is required to get the entire lot of the ordered material inspected at one time, before the supply of the materials. In case the tenderer fails to get the entire lot inspected at one time, the total expenses of the further inspection will be borne by the tenderer.

The inspection by APEDA and issue of dispatch instruction there on shall in no way limit the liabilities and responsibilities of the tenderer in respect of the agreed quality assurance programme forming a part of the contract. Notwithstanding to the any of the clauses herein shall in any way release the tenderer from any guarantee or other obligations under this rate contract.

**39. Notice / Communication:**

Notice, statement and other communication sent by APEDA through registered post or telegram or fax or Email to the contractor at his specified addresses shall be deemed to have been delivered to the contractor.

**40. Extra Work:**

Any work which is not covered under this contract but is essentially required for the completion of job (to the satisfaction of APEDA) shall be carried out by the contractor as extra item for which payment shall be made separately at the rates decided by APEDA.

**41. Design and Drawings:**

The work shall be carried out by the contractor as per design and drawings approved by APEDA, wherever, necessary, the contractor shall submit relevant designs and drawings for approval in APEDA, well in advance. Work carried out without APEDA's approval shall not be accepted and the APEDA shall have right to get it removed and to recover the cost so incurred from the contractor.

**42. Instruction and Routine Maintenance Manual:**

The contractor shall provide one copy of instruction manual and routine maintenance manual with each system supplied or installed, this shall be English.

The following minimum details must be provided with manual:

- (a) About the complete photovoltaic system including PV modules, battery and electronics.
- (b) Do's and Don'ts
- (c) Clear instructions on regular maintenance and trouble shooting of the Systems.
- (d) Name & address of the contact person in case of non-functioning of the systems.
- (e) Firm shall provide address post card and log card with the systems for proper record and quick maintenance of installed system during warranty and AMC period.

**43. PATENT RIGHT AND ROYALITIES.**

The Contractor shall indemnify the APEDA against all third party claims of Infringement of patent, royalties' trademark or industrial design rights arising from use to the goods or any part thereof.

**44. PACKING FORWARDING**

Contractors, wherever applicable, shall after proper painting, pack and crate all the equipment in such manner as to protect them from deterioration and damage during rail and road transportation to the site and storage at the site till time of installation. Contractor shall be held responsible for all damage due to improper packing.

The contractor shall inform the APEDA of the date of each shipment from his works, and the expected date of arrival at the site at least 7 days in advance.

**45. DEMURRAGE, WHARFAGE, ETC**

All demurrage, wharfage and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the contractor.

**46. INSURANCE**

The goods supplied under the contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation; natural calamities shall be included in the bid price.

**47. TRANSPORTATION**

The tenderer is required under the contract to deliver the goods to the site. (The storage/ handling etc shall be sole responsibility of the contractor till the commissioning/ handover of the system).

**48. TERMINATION FOR INSOLVENCY**

APEDA may at any time terminate the contract by giving written notice to the contractor without compensation to the contractor, if it becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue there after to the APEDA.

**49. TERMINATION FOR CONVENIENCE**

The APEDA, may by written notice sent to the tenderer, terminate the contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the purchaser's convenience in the interest of APEDA.

**50. APPLICABLE LAW**

The contractor shall be interpreted in accordance with the laws of the purchaser's country i.e. India. The station of APEDA Directorate, Itanagar shall have exclusive jurisdiction in all matters arising under this contract.

**51. NOTICE**

Any notice given by one party to the other pursuant to the contract shall be sent in writing or by telegram or telex/ cable or Email and confirmed in writing to the address specified for that purpose in the special condition of contract.

A notice shall be effective when delivered or on the notice's effective date, which ever is later.

## **52. OTHER CONDITIONS AND REQUIREMENT :**

1. I-V curve of the each PV module technical details such as  $V_{oc}$ ,  $I_{sc}$ ,  $V_{mp}$ , FF, cell efficiency and  $P_{max}$  etc. shall be supplied along-with each consignment and copy should be sent to APEDA HQ for records.
2. The Contractor in consultation with concerned Officer of APEDA will conduct training programme for the user, focusing on main features, operation and maintenance of the systems.
3. After successful commissioning of the system and training, the system will be handed over to the person designated by APEDA.
4. It shall be the sole responsibility of the contractor to get verified the quality & quantity of the supplied material at the site of delivery.
5. If APEDA requires to place a work order for a specific project or work on the contract rate, in that condition a separate agreement may be executed with the contractor.
6. Firm shall be responsible for proper installation of system with required orientation/ proper sitting of Solar Modules.
7. The tender document signed and sealed on each page by the authorised signatory and annexure duly attached in the last of the document making one document should be enclosed. Typing the formats in other pages, changing the serial order, loose papers etc will not be accepted.

## **53. IDENTIFICATION AND TRACEABILITY**

Each PV module used in any solar power project must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module laminate, but must be able to withstand harsh environmental conditions.

- (i) Name of the manufacturer of PV Module
- (ii) Name of the Manufacturer of Solar cells
- (iii) Month and year of the manufacture (separately for solar cells and module)
- (iv) Country of origin (separately for solar cells and module)
- (v) I-V curve for the module
- (vi) Peak Wattage,  $I_m$ ,  $V_m$  and FF for the module

- (vii) Unique Serial No and Model No of the module
- (viii) Date and year of obtaining IEC PV module qualification certificate
- (ix) Name of the test lab issuing IEC certificate
- (x) Other relevant information on traceability of solar cells and module as per ISO 9000 series.

#### **54. AUTHORIZED TESTING LABORATORIES/ CENTERS**

1. The PV modules must be tested and approved by one of the IEC authorized test centers. Test certificates can be from any of the NABL/BIS Accredited Testing /Calibration Laboratories.
2. Test certificates for the Electronic parts/items/ components can be from any of the NABL/BIS Accredited Testing-Calibration Laboratories/ MNRE approved test centers.
3. Latest test certificates along with I-V Curve should be enclosed with the tender as per the Check List of Annexures.

#### **55. PAYMENTS:**

The payments shall be made as per the following terms and conditions.

1. 70% payment of the contract value of the Solar street lighting systems shall be released by Directorate, APEDA after receipt of the complete sets of materials at site as per technical specifications and terms & conditions specified in the contract and on receipt of duly verified bills along with record entry in Measurement Book by the Site in-charge.
2. 20% Payment of the contract value of the particular Solar street lighting systems shall be released after installation and commissioning of the systems along-with the handing over certificate, completion report and successful commissioning certificate duly countersigned by the designated officer of APEDA and NIT being the beneficiary/ user.
3. 10% balance payment shall be retained as performance security and released after the completion of five years of warranty period from the date of handing over of the street lighting systems or on submission of Bank Guarantee of equivalent amount after six months of successful operation of systems valid till the expiry of the warranty period.

## **56. TECHNICAL SPECIFICATIONS:**

### **SCOPE OF WORK AND TECHNICAL SPECIFICATIONS OF SOLAR STREET LIGHTING SYSTEMS FOR NATIONANAL INSTITUTE OF TECHNOLOGY, JOTE IN PAPUMPARE DISTRICT OF ARUNACHAL PRADESH.**

#### **I. DEFINITION**

A stand alone solar photovoltaic street lighting system comprises a compact fluorescent lamp, lead acid battery, PV module(s), control electronics, inter-connecting wires/cables, module mounting hardware, battery box, Operation, Instruction and Maintenance Manual.

#### **II. COMPONENTS SPECIFICATIONS FOR NIT, JOTE**

Components	Specifications	Quantity ( In Nos./Sets )
PV Module	1 No. 74 Wp or 2 Nos. 37 Wp under STC	600
Lamps	1 No. CFL (11W)	600
Battery	1 x 12 V, 75 Ah Tubular Plate	600
Others	Control Electronics Module Mounting hardware, Battery Box, Inter connecting Wires / Cables, Switches	600

#### **III. DUTY CYCLE**

The system should be designed to automatically switch ON at dusk, operate throughout the night and automatically switch OFF at the dawn, under average daily insolation of 4.5 kWh/sq.m. on a horizontal surface.

#### **IV. LAMP**

- i) The lamp will be of compact fluorescent (CFL) type, either 4-pin or 2-pin type, with a rating of 11W. For 4-pin type CFL, adequate pre-heating circuit must be provided.
- ii) The light output from the lamp should be around 900 +/- 5% lumens.
- iii) The lamp should be housed in a weather proof assembly suitable for outdoor use, with a reflector on its back. While fixing the assembly, the lamp should be held in a base up configuration.

#### **V. BATTERY**

- i) Flooded electrolyte type, positive tubular plate, low maintenance lead acid battery.
- ii) The battery will have a minimum rating of 12V, 75 Ah (at C/10) discharge rate.

iii) 75% of the rated capacity of the battery should be between fully charged & load cut off conditions.

iv) Exide make

## VI ELECTRONICS

v) The inverter should be of quasi sine wave/sine wave type, with frequency in the range of 20-35 KHz. Half-wave operation is not acceptable.

vi) The total electronic efficiency should be at least 80%.

vii) No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF cycles (two minutes ON followed by four minutes OFF is one cycle).

viii) The idle current consumption should not be more than 10 mA.

ix) Electronics should operate at 12V and should have temperature compensation for proper charging of the battery through out the year.

x) Necessary lengths of wires/cables and fuses should be provided.

vii) The PV module will also be used to sense the ambient light level for switching ON and OFF of the lamp.

xi) The PV module(s) shall contain crystalline silicon solar cells.

xii) The power output of the module(s) under STC should be a minimum of 74 W. Either two modules of minimum 37 W output each or one module of 74 W output should be used.

xiii) The operating voltage corresponding to the power output mentioned above should be 16.4 V.

xiv) The open circuit voltage of the PV modules under STC should be at least 21.0 Volts.

xv) The terminal box on the module should have a provision for opening for replacing the cable, if required.

xvi) A strip containing the following details should be laminated inside the module so as to be clearly visible from the front side:

a) Name of the Manufacturer or distinctive Logo

b) Model or type no.

c) Serial no.

d) Year of make

## VII ELECTRONIC PROTECTIONS

- i) Adequate protection is to be incorporated under no load conditions e.g. when the lamp is removed and the system is switched ON.
- ii) The system should have protection against battery overcharge and deep discharge conditions.
- iii) Fuses should be provided to protect against short circuit conditions.
- iv) A blocking diode, should be provided as part of the electronics, to prevent reverse flow of current through the PV module(s).
- v) Full protection against open circuit, accidental short circuit and reverse polarity should be provided.

## VIII MECHANICAL HARDWARE

- i) A metallic frame structure (with corrosion resistance paint) to be fixed on the pole to hold the SPV module(s). The frame structure should have provision to adjust its angle of inclination to the horizontal between 0 and 45°, so that the module(s) can be oriented at the specified tilt angle.
- ii) The pole should be made of mild steel pipe with a height of 4 metres above the ground level, after grouting and final installation. The pole should have the provision to hold the weather proof lamp housing. It should be painted with a corrosion resistant paint.
- iii) A vented, acid proof and corrosion resistant painted metallic / plastic box for outdoor use should be provided for housing the battery.

## IX . OTHER FEATURES

- i) The system should be provided with 2 LED indicators : a green light to indicate charging in progress and a red LED to indicate deep discharge condition of the battery. The green LED should glow only when the battery is actually being charged.
- ii) There will be a name plate on the system which will give:
  - a) Name of the Manufacturer or Distinctive logo
  - b) Serial number
- iii) Components and parts used in the solar street lighting systems should conform to the latest BIS specifications, wherever such specifications are available and applicable.
- iv) The PV module(s) will be warranted for a minimum period of 10 years from the date of supply and the street lighting system (including the battery) will be warranted for a period of two years from the date of supply.

The warranty card supplied with the system must contain the details of the system supplied as per Annexure. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

- v) An Operation, Instruction and Maintenance Manual, in English should be provided with the solar street lighting system.

The following minimum details must be provided in the manual:

- a) about photovoltaics
- b) about solar street lighting system-its components and expected performance
- c) about PV module
- d) about CFL
- e) about battery
- f) clear instructions with drawings about erection of pole and mounting of PV module and lamp housing assembly on the pole
- g) about electronics
- h) about charging and significance of indicators
- i) DO's and DONT's
- j) Clear instructions on regular maintenance and trouble shooting of the solar street lighting system
- k) Name and address of the contact person incase of non-functionality of the solar street lighting system

## **57. Technical Particulars [To be filled by Bidder]**

<b>Particulars of SPV system</b>	<b>Actual offered by Firm</b>
DC output of PV panel (Wp)	
Area required (square feet)	
No. of cells in one PV module	
DC rating of one module (WP)	
Rated DC current of one module	
Rated DC voltage of one module (Vmpp)	
No. of PV module in one system	
Max. DC output voltage of module (Volt)	
Make of SPV module	
Model of SPV module	
Make of Charge controller	
Model of Charge controller	
Make of Battery	
Model of Battery	

## **58. PERFORMANCE WARRANTY**

1. The mechanical structures, electrical works including power conditioners/inverters/charge controllers/ maximum power point tracker units/distribution boards/digital meters/ switchgear/ storage batteries, etc. and overall workmanship of the SPV power plants/ systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5(five) years.
2. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
3. Performance of Equipment: In addition to the warranty as already provided, the tenderer shall guarantee satisfactory performance of the equipment and shall be responsible for the period of 05(five) from the date of taking over by the user/APEDA to the extent for any defects that may develop. Such defects shall be removed at his own cost when called upon to do so by the APEDA.
4. The contractor shall rectify defects developed in the system within Warranty period promptly. In case the defects are not rectified within 14 days of the receipt of the complaint by the contractor APEDA shall have full liberty to restore the system in working condition. The expenditure so incurred by APEDA shall be deducted from the contractor pending claims, security deposit or in other lawful manner

The scope of work includes repairing/replacement of power plant/ system to make the system functional within warranty period whenever a complaint is lodged by the user. The contractor shall attend the same within a reasonable period of time and in any case of breakdown shall be corrected within a period not exceeding 14 days.

In case of any damage or breakage of the component due to negligence or fault of beneficiary or theft etc, the same shall be replaced at users cost.

The safety and security of the system shall be sole responsibility of the user.

## **59. FINANCIAL BID**

**Financial offer for Manufacturing, Supplying, Installation & Commissioning of 600 Nos of Solar Street Lighting Systems at NIT, Jote in Papum Pare District of Arunachal Pradesh.**

### **Solar Street Lighting Systems :**

<b>Sl.No.</b>	<b>Item</b>	<b>Qnty.</b>	<b>Rate per unit (in Rs.)</b>	<b>Amount (in Rs.)</b>
1.	Manufacturing, Supplying, Installation, Testing and Commissioning of Solar Street Lighting System with 74 Wp SPV Module, 75 AH, 12V Battery, 1 x 11 watt CFL with mounting structure & pole, electronics, connecting cables etc as required as per MNRE specifications i/c transportation, loading, unloading and safe stacking of materials, taxes and duties upto NIT premise at Jote in Papumpare District, Arunachal Pradesh, but excluding cost of civil works. <i>(Note: Taxes and Duties may be shown separately if needed. The State VAT is 4%).</i>	600 sets		
2.	Extra for Civil Works i/c cost of materials like cement, sand, shingles, shuttering, labour, local transportation etc as required for erection of poles to the depth upto 1/6 <sup>th</sup> of pole length in CC work of 1:2:4.	600 sets		
<b>Total</b>			<b>Rs.</b>	

**(Rupees ..... Only)**

1. Certified that rate quoted above is as per the requirement, specification terms & condition mentioned in the tender.
2. The rates are inclusive of all taxes & duties, VAT/Entry Tax of Arunachal Pradesh, transportation up to site, insurance etc. what so ever.

Signature of Tenderer/ Bidder:  
Name, Designation / Post held:

Seal:

